

CLAIMS

1. A method for manufacturing a porous ceramic structure which comprises: mixing a ceramic material, a foamed resin and, if necessary, a forming auxiliary;
5 forming the mixture; and then firing the thus formed body, wherein:

as the foamed resin, there is used a material in which the weight of a gas included in the foamed resin stored at 40°C for 4 weeks is 8% or more of the weight of
10 the foamed resin.

2. A method for manufacturing a porous ceramic structure which comprises: mixing a ceramic material, a foamed resin and, if necessary, a forming auxiliary;
15 forming the mixture; and then firing the thus formed body, wherein:

as the foamed resin, there is used a material in which a weight decrease ratio of a gas included in the foamed resin stored at 40°C for 4 weeks is 30% or less with
20 respect to the weight of the gas before stored.

3. The method for manufacturing the ceramic structure according to claim 1 or 2, wherein a resin of an outer shell of the foamed resin is constituted of a
25 copolymer containing 60 wt% or more of acrylonitrile and 40 wt% or less of methyl methacrylate.

4. The method for manufacturing the ceramic structure according to claim 3, wherein the resin of the outer shell of the foamed resin is constituted of a copolymer containing 60 wt% or more of acrylonitrile and 20 wt% or less of methyl methacrylate.

5. The method for manufacturing the ceramic structure according to claim 3, wherein the resin of the outer shell of the foamed resin is constituted of a copolymer containing 90 wt% or more of acrylonitrile and 10 wt% or less of methyl methacrylate.

6. The method for manufacturing the ceramic structure according to any one of claims 1 to 5, wherein 80 wt% or more of the gas included in the foamed resin is a C5 component having 5 carbon atoms.

7. The method for manufacturing the ceramic structure according to any one of claims 1 to 6, wherein the ceramic structure is a honeycomb structure.

8. The method for manufacturing the ceramic structure according to any one of claims 1 to 7, wherein the ceramic structure is a honeycomb filter which has a plurality of through holes opened in an exhaust gas inflow-side end face and an exhaust gas outflow-side end face and in which the plurality of through holes are closed

alternately in opposite end face portions.

9. The method for manufacturing the ceramic structure according to any one of claims 1 to 8, wherein
5 the ceramic structure is made of, as main components, cordierite, silicon carbide (SiC), and/or silicon carbide (SiC) and metallic silicon (Si).

10. The method for manufacturing the ceramic
10 structure according to any one of claims 1 to 9, wherein the average diameter of the foamed resin is in a range of 2 to 200 μm .

11. The method for manufacturing the ceramic
15 structure according to any one of claims 1 to 10, wherein the thickness of a shell wall of the foamed resin is in a range of 0.01 to 1.0 μm .